Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) An isolated ~~CDK4 binding~~ peptide comprising:

Tyr-Ser-Gly-Pro-Pro-Xaa$_1$-Xaa$_2$-Xaa$_3$-Arg-Arg-Xaa$_4$-Asn-Xaa$_5$-Tyr-Xaa$_6$ (SEQ ID NO: 1) wherein Xaa$_1$= Cys or Ser; Xaa$_2$= Ser or Gly; Xaa$_3$= Ser, Ala or Pro; Xaa$_4$=Arg or Gln; Xaa$_5$= Ser, Cys or Gly; and Xaa$_6$=Asp or Glu;

wherein the isolated peptide does not include a bHLH domain;

wherein the isolated peptide binds cyclin dependent kinase 4.

2. (Canceled)

3. (Currently Amended) A fusion protein comprising:

(a) a ~~CDK4 binding~~ peptide comprising Tyr-Ser-Gly-Pro-Pro-Xaa$_1$-Xaa$_2$-Xaa$_3$-Arg-Arg-Xaa$_4$-Asn-Xaa$_5$-Tyr-Xaa$_6$ (SEQ ID NO: 1) wherein Xaa$_1$= Cys or Ser; Xaa$_2$= Ser or Gly; Xaa$_3$= Ser, Ala or Pro; Xaa$_4$=Arg or Gln; Xaa$_5$= Ser, Cys or Gly; and Xaa$_6$=Asp or Glu; wherein the peptide binds cyclin dependent kinase 4 and

(b) a heterologous amino acid sequence.

4. (Original) The fusion protein of claim 3 wherein the heterologous amino acid sequence comprises a nuclear localization signal.

5. (Currently amended) The fusion protein of claim 4 wherein the ~~CDK4 binding~~ peptide is at the C-terminus of the fusion protein.

6. (Withdrawn) A nucleotide sequence encoding a CDK4 binding peptide, wherein the CDK4 binding peptide comprises:

Tyr-Ser-Gly-Pro-Pro-Xaa$_1$-Xaa$_2$-Xaa$_3$-Arg-Arg-Xaa$_4$-Asn-Xaa$_5$-Tyr-Xaa$_6$

wherein Xaa_1= Cys or Ser; Xaa_2= Ser or Gly; Xaa_3= Ser, Ala or Pro; Xaa_4=Arg or Gln; Xaa_5= Ser, Cys or Gly; and Xaa_6=Asp or Glu.

7. (Withdrawn) The nucleotide sequence of claim 6, wherein the nucleotide sequence is a DNA sequence.

8. (Withdrawn) A method of inhibiting cell growth, comprising:

administering to a patient a CDK4 binding peptide comprising:

Tyr-Ser-Gly-Pro-Pro-Xaa_1-Xaa_2-Xaa_3-Arg-Arg-Xaa_4-Asn-Xaa_5-Tyr-Xaa_6

wherein Xaa_1= Cys or Ser; Xaa_2= Ser or Gly; Xaa_3= Ser, Ala or Pro; Xaa_4=Arg or Gln; Xaa_5= Ser, Cys or Gly; and Xaa_6=Asp or Glu in an amount effective to inhibit cell growth.

9. (Withdrawn) A method of inhibiting the activity of CDK4 comprising:

contacting CDK4 with a CDK4 binding peptide comprising:

Tyr-Ser-Gly-Pro-Pro-Xaa_1-Xaa_2-Xaa_3-Arg-Arg-Xaa_4-Asn-Xaa_5-Tyr-Xaa_6

wherein Xaa_1= Cys or Ser; Xaa_2= Ser or Gly; Xaa_3= Ser, Ala or Pro; Xaa_4=Arg or Gln; Xaa_5= Ser, Cys or Gly; and Xaa_6=Asp or Glu in an amount effective to inhibit the activity of CDK4.

10. (New) The isolated peptide of claim 1, wherein Xaa_1=Ser, Xaa_2=Gly, Xaa_3=Ala, Xaa_4=Arg, Xaa_5=Cys, and Xaa_6=Glu.

11. (New) The fusion protein of claim 3, wherein Xaa_1=Ser, Xaa_2=Gly, Xaa_3=Ala, Xaa_4=Arg, Xaa_5=Cys, and Xaa_6=Glu.